



**Responses to the U.S. EPA's  
March 26, 2008, Comments on the Draft Remedial Design Workplan for the  
12th Street Landfill, Otsego Township, Michigan  
(Operable Unit #4 of the Allied Paper, Inc./Portage Creek/Kalamazoo River  
Superfund Site)**

**General Comments**

1. Portable Document Formats (PDFs) created directly from the electronic files, instead of being scanned, provide the ability to search for words or phrases. Future submittals which are searchable would expedite the document review.

*Response:* Future submittals, including the revised Remedial Design Workplan (RDWP), will include searchable PDF files on compact disk.

2. Please include an "Acronyms and Abbreviations" in this Workplan.

*Response:* A list of acronyms and abbreviations has been added to the document, following the Table of Contents.

**Specific Comments**

1. Page 4, Section 2.2.1, third paragraph. "Historical aerial photographs show that disposal of paper residuals did not extend beyond 12th Street at the south end of the landfill property." Is there any investigation data supporting this, since it was stated there was not a berm constructed at the southern end? Please explain how the southern extent of residuals will be determined.

*Response:*

Several lines of evidence support the use of the 12<sup>th</sup> Street roadbed as the southwestern boundary of the fill area, even though the retaining berm that was reportedly constructed around other areas of fill (G&M, 1994a) was apparently not extended around the southern end of the landfill. A north-south geological cross-section of the landfill presented in the RI Report (G&M, 1994a; and copied in Appendix E of the RDWP) shows that the ground surface prior to placement of waste sloped upward from north to south, suggesting the wet paper residuals would tend to flow away from 12<sup>th</sup> Street (the street, not the landfill). This cross-section includes the boring information for monitoring wells MW-8A/MW-8B, which are located just north of 12<sup>th</sup> Street (the street, not the landfill). These borings did not encounter paper residuals. Moreover, historical aerial photographs suggest that 12<sup>th</sup> Street (the street, not the landfill) was constructed on ground that was built up higher than the

land adjacent to it on either side; likely to provide access to the Plainwell Dam during periods of high water.

Based on the information described above, the Record of Decision (ROD) did not include the area south of 12<sup>th</sup> Street as an area containing PCBs even though it specifically identifies other areas as being contaminated by PCBs and, therefore, part of OU-4 (*i.e.*, the woodland area located in the southeastern corner of OU-4, the wetlands adjacent to the landfill to the north and northwest, a portion of the adjacent gravel operation [*sic*] property that borders the landfill to the west, and a portion of the former powerhouse discharge channel of the Plainwell Dam on the Kalamazoo River that contains residuals contiguous to the eastern side of the landfill).

Section 2.2.1 of the RDWP has been modified to include this additional information, and thus clarify the basis for using the roadbed for 12<sup>th</sup> Street as the southwestern boundary of the fill area.

2. Page 8, Section 3.2. The Record of Decision (ROD) quite clearly numbers and identifies the "major components" of the remedy, but this section appears to provide a less than complete recounting of the components from the ROD. The section should be consistent with the work identified in the ROD (e.g. numbered items 1 through 11 in ROD). Please change the structure of the section so that it follows that used in the ROD.

*Response:*

The description of the components of the selected remedy is consistent with those contained in the ROD and the Statement of Work (SOW). They were organized and paraphrased to better fit the context of this section of the RDWP, which outlined the components of the remedy. There was no intent to omit any components of the remedy or to modify the remedy in any way. As directed by the agency, this section of the RDWP has been revised to directly quote the section of the ROD that describes the major components of the selected remedy.

3. Page 8, Section 3.2.1. The ROD requires that the buffer zone "shall be of sufficient size ...to provide for a hydraulic separation between the waste and the surface water". The RDWP briefly mentions the requirement in the ROD for hydraulic separation at the landfill. This needs to be discussed in greater detail within this section.

*Response:*

*(Note that discussion of this issue has been included in Section 3.2 in the April 2008 final document [Subsection 3.2.1 has been eliminated].) As directed by the agency in the*

preceding comment, this section of the RDWP has been revised to quote the section of the ROD that describes the major components of the selected remedy. Further discussion and details regarding "hydraulic connection between the PCB-contaminated wastes in the newly-constructed landfill containment system and the Kalamazoo River or the former powerhouse discharge channel" will be provided in the Remedial Design Report.

4. Page 9, Section 3.2.3. "Erosion protection is to be installed on the sidewalls of the landfill, sufficient to provide protection from a 500-year flood event. The erosion protection is to extend to a minimum of 2 feet above the 100-year flood elevation..." Please correct this discrepancy.

*Response:*

*(Note that discussion of this issue has been included in Section 3.2 in the April 2008 final document [Subsection 3.2.3 has been eliminated].)* As directed by the agency, this section of the RDWP has been revised to quote the section of the ROD that describes the major components of the selected remedy. Further discussion and details regarding erosion protection will be provided in the Remedial Design Report.

It may be helpful to note that there is no published information for the elevation and flow velocity of the 500-year flood event in this stretch of the Kalamazoo River. Consequently, for the Emergency Action that was conducted in 2007, Weyerhaeuser estimated the elevation and flow velocity for the 500-year flood event based on the hydrodynamic modeling that was performed for the Time-Critical Removal Action (developed by the Kalamazoo River Site Group), and verified those estimates using Manning's Equation (documentation was provided in Appendix F of the Emergency Response Plan Design Report for the 12<sup>th</sup> Street Landfill/Former Powerhouse Channel [RMT, Inc., September 2007]). This analysis estimated the elevation for the 500-year flood event to be 705.5 feet M.S.L. Because this elevation is less than the minimum elevation for erosion protection required by the ROD (707.0 feet M.S.L.), Weyerhaeuser determined that 707.0 feet M.S.L. is the appropriate design elevation for erosion protection. This information will also be presented in the Remedial Design Report.

5. Page 9, Section 3.2.4. Short-term monitoring is vague here, whereas long-term monitoring is more specific. Additional description of short-term monitoring to be done would be appropriate. What are the samples to be collected and what parameters will be analyzed for surface water and air?

*Response:*

*(Note that discussion of this issue has been included in Section 3.2 in the April 2008 final document [Subection 3.2.4 has been eliminated].)* At the request of the U.S. EPA, this section has been revised to quote the section of the ROD that describes the major components of the selected remedy. Details for short-term surface water monitoring and air monitoring during construction, as well as for long-term groundwater monitoring, will be included in the Remedial Design Report.

6. Page 12, Section 3.3, "Channel dewatering and residuals removal", last sentence. This section should also state what was done with soil excavated from the bank that did NOT contain visible residuals.

*Response:*

*(Note that this text is on Page 11 in the April 2008 final document.)* Clarification has been added to the text. As described in Subsection 2.2.3 of the Emergency Response Plan Design Report (RMT, September 2007), which was approved by the U.S. EPA, soil excavated from the bank that did not contain visible residuals was moved to the top of the landfill and used to cover/grade the mixed fill/paper residual containment area. This area will also be capped by the final cover system over the 12th Street Landfill Operable Unit.

7. Page 13, Section 3.3, last bullet. It is indicated that erosion protection and sidewall containment were installed on the eastern slope of the landfill. The Emergency Action only provided for "Intermediate Cover on Side Slopes" as such side wall containment has yet to be conducted. The cover on these slopes must be evaluated before it can be determined to be final.

*Response:*

*(Note that this bullet is on Page 12 in the April 2008 final document.)* Section 3.3 has been revised to more accurately reflect which portions of the erosion control/sidewall containment measures that were constructed on the eastern sideslope during the Emergency Action are permanent and which are interim.

Erosion protection and containment measures were installed on the eastern sideslope during the Emergency Action. Two of these measures are permanent, while two others are interim until the final cover system is constructed. The two permanent measures that were installed are the riprap and the clay "wedge". As described in the Emergency Response Plan Design Report (RMT, September 2007), the riprap and the clay "wedge" are permanent measures that will not be removed during the Remedial Action. Installation of these permanent measures as part of the

Emergency Action allows the rest of the final cover system to be installed above the elevation of the 2-year flood event (approximately 702.5 feet M.S.L.).

The riprap was designed to provide protection from the 500-year flow velocity (5.7 feet per second). The riprap was installed over a geotextile clay fabric from the bottom of the river up to 703 feet M.S.L., which is the elevation of the access road along the riverfront. The clay "wedge" extends along the entire eastern sideslope, from the base of the landfill to 702.5 feet M.S.L. The clay "wedge" is part of the final cover system that will provide sidewall containment and hydraulic separation.

In contrast, the 1-foot-thick earthen cover and the turf reinforcement mat (Enkamat®) are interim measures. The Enkamat® and the 1-foot-thick earthen cover were installed from 703 feet M.S.L. to 707 feet M.S.L. These will be removed as part of the Remedial Action to facilitate regrading of the slope and placement of the final cover system prescribed in the ROD in this area.

8. Page 16, Section 4.1.3. The property on the southwest side of the landfill is an active asphalt plant and not a gravel quarry.

*Response:*

*(Note that this text is on Page 15 in the April 2008 final document.)* The ROD and RI/FS reports variously refer to the property on the southwest side of the landfill as a gravel operation, a gravel pit operation, or a sand and gravel mining operation. Since the Draft RDWP was prepared, Weyerhaeuser has found that this property is owned by the Wyoming Asphalt and Paving Company. Consequently, the RDWP has been revised to refer to this facility as an asphalt plant.

9. Page 17, Section 4.1.4 On-Site Groundwater Occurrence and Flow, last paragraph. Groundwater occurrence, flow direction and gradients have been established during the investigations while the dam is in place. There is a radial component of flow at the site that is believed to be due (in part) to that induced by the flow around the dam. Is there a need to estimate or model groundwater flow after dam removal to ensure the assumptions made are correct? How will the predicted change in groundwater flow affect the need for leachate collection and the design for the long-term monitoring network? After the groundwater returns to its "pre-dam" condition, flow directions on the site should be characterized for design purposes. The assumption that flow will be toward the river is not sufficient because there are wetlands to the north and west of the site. The remedial design work plan needs to include these elements.

*Response:*

*(Note that this Section is on Pages 15-16 in the April 2008 final document.)* After the dam is removed (currently planned by the Kalamazoo River Study Group to occur in April or May 2008), we anticipate that shallow groundwater at the 12<sup>th</sup> Street Landfill operable unit would return to a more west to east flow direction—without the current component of flow around the dam. Groundwater would generally flow toward the river based on our understanding of the site, which indicates the river is a stronger point of groundwater discharge than the wetlands.

The wetlands to the north and west of the landfill are not expected to alter the groundwater regime any more than they do at present (*i.e.*, some northward component of groundwater flow would still be anticipated after the dam is removed owing the presence of the lower permeability fill).

To confirm this conceptual model of anticipated post-dam groundwater flow at the 12<sup>th</sup> Street Landfill site, Weyerhaeuser will measure the groundwater levels in the existing monitoring wells that encircle the landfill biweekly after the dam is removed until the groundwater flow direction stabilizes (there are seven nested well pairs and one water table well; the locations are shown on Figure 5 of the RDWP). Based on the relatively high hydraulic conductivity of the underlying sand unit, the groundwater flow regime is expected to stabilize within several weeks.

Weyerhaeuser will use water level data to develop potentiometric surface maps. The long-term groundwater monitoring plan (part of the Remedial Design Report) will be developed based on the stabilized groundwater flow conditions after the dam is removed from the river.

10. Page 18, Section 4.2 Wetlands, last paragraph. Identification of the source of freestanding water could be a significant issue during design and/or future actions. Please support the statement that “Frequent or sustained periods of inundation, such as would occur from overbank flooding, were not noted or observed in the wetland area immediately adjacent to the 12<sup>th</sup> Street Landfill.” Site visits that correspond to periods of flooding and the severity of the event should be referenced. Additional support attributing standing water only to rain events is required.

*Response:*

*(Note that this paragraph is on Page 17 in the April 2008 final document.)* The subject paragraph has been modified to focus on the findings of the 2002 wetland delineation performed by CDM. The frequency, duration, areal extent, and environmental significance of the periodic inundation of floodplain areas at the 12<sup>th</sup> Street Landfill property are informational gaps associated with the river (Operable Unit #5) that are currently being evaluated.

11. Page 18, Section 4.3.1, first paragraph. The fifth sentence should be revised to "These results will be used to estimate the settlement of the landfill under final closure conditions..."

*Response:*

This typographical error has been corrected.

12. Page 19, first paragraph. The believed location of the berm (from aerial photographs or the Test Pit Investigation) should be discussed relative to the Geoprobe® investigation during the Emergency Action.

*Response:*

*(Note that this paragraph is on Page 18, second paragraph, in the April 2008 final document.)*

The locations of the Geoprobe® borings that were installed by Weyerhaeuser in 2007 were selected to try to intercept the retaining berm that was reported in the *Test Pit Investigation Technical Memorandum, 12<sup>th</sup> Street Landfill Operable Unit* (G&M, 1994a). Other than its reported presence, limited information about the berm (e.g., location, elevation, and dimensions) was provided in the *Test Pit Investigation Technical Memorandum*. The Geoprobe® borings were located in the field to target what appeared to be a portion of a retaining berm along the southeastern corner of the landfill (to the north of the MDNR property) that could be seen on a historical aerial photograph. When efforts to locate a berm along the eastern landfill sideslope were unsuccessful (a total of 26 borings were installed along 6 transects), Weyerhaeuser conservatively assumed, for the purpose of performing slope stability calculations, that there is no engineered structure along the base of the fill that may provide support. The assumption that there is no retaining berm of structural significance will also be used in designing the final grades and cover for the other areas of the landfill.

13. Page 19, second paragraph. Are these estimates of cover depth consistent with the observations made during the Emergency Action? Include those observations in the discussion of cover depth.

*Response:*

*(Note that this paragraph is on Page 18, third paragraph, in the April 2008 final document.)*

This paragraph has been modified to indicate that the variable cover thicknesses reported in the 1996 RI report are consistent with observations during the 2007 Emergency Action. These observations are included on the logs prepared for the 26 Geoprobe® borings that were advanced in the southeastern corner of the landfill.

14. Page 19, Section 4.3.3. This section does not adequately consider potential issues associated with landfill gas. The nature of the waste (high organic content) is conducive to gas generation. Where caps have been placed at other disposal units (O.U.-1 and O.U.-3) gas vent systems have been required with some work necessary to intercept migrating landfill gas. Statements should be consistent with Section 5.2. Further, in our January 9, 2008 meeting, Weyerhaeuser stated that they wanted to be proactive about landfill gas issues and implement a gas collection system at 12<sup>th</sup> Street.

*Response:*

The text in Subsection 4.3.3 is accurate in the context of summarizing existing information about landfill gas. As stated in Subsection 5.2, Weyerhaeuser plans to install a passive gas venting system as part of the Remedial Action to prevent potential off-site gas migration from the landfill and to protect the integrity of the final cover. A sentence has been added to Subsection 4.3.3 referencing the discussion in Subsection 5.2 regarding gas mitigation measures appropriate for post-cover conditions.

15. Page 20, Section 4.4, paragraph 3, last sentence. Do the concentrations of PCBs in the 159 samples suggest the presence of residuals at additional locations within the wetland, even if they were not observed?

*Response:*

*(Note that this is the first paragraph on Page 20 in the April 2008 final document.)* The third paragraph of Section 4.4 has been modified to note that the U.S. EPA's report did not conclude that elevated concentrations of PCBs were present at locations in the wetland where residuals were not visually observed, nor did it suggest a change in the use of the visual criterion that was established in the ROD for identifying areas in which residuals would be excavated and consolidated into the 12<sup>th</sup> Street Landfill.

16. Page 21, Section 4.5, last sentence. Why isn't the elevation appropriate for habitat characterization? What data would be appropriate? Please provide explanations.

*Response:*

The elevation may not be appropriate for habitat characterization because evaluations for this purpose have not been conducted. The subject sentence has been revised to state that "While this elevation may be appropriate for the design of erosion protection features, a more detailed analysis would be needed to determine



an appropriate elevation for habitat characterization.”

17. Page 22, Section 5, second paragraph. “Decontamination water will be discharged to the landfill surface at a rate that allows infiltration into the landfill without running off the landfill.” Decontamination water should be collected, contained, and appropriately disposed offsite per typical investigation procedures. The same comment applies to the bulleted discussion in Section 5.1.

*Response:*

The text describing the plan for managing decontamination water was inconsistent between Section 5 and the FSP, and has been corrected. Discharging decontamination water to the landfill surface at a rate that allows infiltration into the landfill without creating runoff has been allowed by the U.S. EPA and/or the MDEQ at other landfill sites in Michigan. This practice does not pose an increased risk to human health and the environment because the volumes are small compared to the flow in the groundwater flow system and because the possible concentrations of contaminants in decontamination water would be so low that no significant increased risk to human health or the environment could reasonably be expected to occur as a result. Moreover, because samples are not going to be collected for laboratory analysis, only limited decontamination of equipment is involved in the predesign investigation.

18. Page 22, Section 5.1, first and second bullets. Since all 11 of the Geoprobe borings will be advanced onsite, and the purpose of the borings is to assist in implementing the RA offsite, are there plans to advance additional borings offsite if access can be secured before the remedial design? If not, why?

*Response:*

The findings from previous studies provide useful approximations of the areal extent of paper residuals in the targeted off-site areas. The objective for advancing borings RDB-01 through RDB-11 is to determine the thickness of the paper residuals in order to reduce the uncertainty in estimating the volumes of the paper residuals in these areas, primarily for estimating cut and fill quantities. The information obtained from these borings, in conjunction with the information that will be obtained from the test pits that will be excavated on the adjacent properties (described in Subsection 5.3 and shown on Figure 10) will be used to support discussions with the property owners concerning access for implementing the Remedial Action. A precise delineation on the extent of paper residuals in these areas is not needed because, as prescribed in the ROD, all visible paper residuals on these properties will be removed and consolidated into the landfill during the

Remedial Action. It should be noted that proposed borings RDB-01 through RDB-09 are located on the top of the landfill because the steep slopes along the southeastern and southwestern sides of the landfill limit drill rig access. Additionally, suitable locations for borings RDB-10 and RDB-11 along the southern property line are limited by the presence of aboveground and underground utility lines.

19. Page 24, bullet 2 of 4. Please discuss the decision criteria to be used to determine if additional test pits would be required and the locations for the test pits.

*Response:*

The subject text has been revised to clarify that if visible residuals are observed in the end of a test pit furthest from the landfill, the test pit may be extended further away from the landfill and/or an additional test pit (or more) may be excavated nearby in order to confirm the areal extent of the visible residuals contiguous with the landfill within the wetland. If an additional test pit (or more) are needed, the U.S. EPA project manager, or designated alternate, will be contacted to discuss the situation and to agree on a course of action. ✓

20. Page 24, bullet 3 of 4. Please explain why decontamination of equipment between test pits should not be required.

*Response:*

The subject text has been revised to clarify that decontamination of excavating equipment between test pits is not necessary because samples are not being collected for laboratory analysis. Clumps and loose material will be removed from the bucket of the excavating equipment using hand tools as needed to obtain good visual characterization of the material in the test pit. The clumps and loose material will be placed in the test pits.

21. Page 24, bullet 3 of 6. Please discuss the decision criteria to be used to determine if additional test pits would be required and the locations for the test pits.

*Response:*

The subject text has been revised to clarify that if visible residuals are observed in the end of a test pit furthest from the landfill, the test pit may be extended further away from the landfill and/or an additional test pit (or more) may be excavated nearby as needed to delineate the areal extent and depth of visible residuals on the asphalt facility and/or the State property in order to support discussions with the owners of these properties concerning access for future remedial actions. If an additional test pit (or more) are needed, the U.S. EPA project manager, or designated

alternate, will be contacted to discuss the situation and to agree on a course of action.

22. Page 25, Section 5.4. A review of existing data regarding the design of a leachate collection system appears to have been performed since the section concludes with the statement "No additional field information is needed." If the current evaluation suggests that no additional data is required, then a preliminary determination of the need for leachate collection should be included in the text similar to the discussion on landfill gas in Section 5.2.

*Response:*

Unlike for landfill gas, it is uncertain whether a leachate collection system is needed for this landfill. This evaluation will be conducted as part of the predesign studies and reported in the Draft Remedial Design Report. Although no additional field information is needed, desktop evaluations are still need to be performed as part of the predesign activities.

23. Page 25, first paragraph. The use of alternative equipment would result in different dimensions for test pits. The different alternatives to the standard method for test pit excavation should be presented with the respective width, depth, or other criteria for each method. If alternative excavation methods are necessary, EPA approval of the method is required before excavation can occur.

*Response:*

The subject paragraph has been revised to state that if alternative excavation methods are necessary, the U.S. EPA project manager, or designated alternate, will be contacted to discuss the situation and to agree on a course of action. In addition, Weyerhaeuser will conduct a kick-off meeting with the U.S. EPA and its field representative(s) at the outset of the predesign field investigation. During this meeting, the schedule for conducting the predesign field activities and the process for obtaining U.S. EPA approval of field modifications will be reviewed.

24. Page 27, Section 6, paragraph following four bullets. The text seems to infer that the USEPA will review a "draft Design Report" but then gets no other review before the final Design Report is issued. The schedule shown on Figure 11 indicates the USEPA reviews the "Preliminary Design Report" and reviews the Final Design Report. The review plan as described in the schedule seems fine, and it should be made clear in the text (including changing "draft" to "Preliminary").

*Response:*

The text in Section 6 is inconsistent with the schedule on Figure 11. The text and Figure 11 have been revised to indicate that Weyerhaeuser will submit a Preliminary Design Report for review and comment, and will address the agency's comments in both a comment/response document and in a Pre-Final Design Report that will be submitted in redline format. Since the Preliminary Design Report will be a complete 100 percent design, it is expected that the Pre-Final Design Report will be approvable by the U.S. EPA. Assuming the U.S. EPA is satisfied that its comments have been adequately addressed in the Pre-Final Report, a Final Design Report would be submitted with the revisions incorporated (i.e., not in redline format).

25. Pages 27-28. The 6th bullet (in the Design Report component list) identifies "Number and Location of Monitoring Wells". The design and construction of the monitoring wells at the landfill operable units has been a particularly important aspect of the landfill monitoring well network designs. This is due to the challenges uniquely posed by the hydrogeology at the landfills and the transport mechanisms of the contaminants of interest. The Design Report should include the well construction details and any methods used for determining those details (e.g., for determining screen placement). This may already be assumed, but the bullet should include "well construction detail" for clarity.

*Response:*

*(Note that this bullet is on Page 28 in the April 2008 final document.)* The U.S. EPA's comment has been incorporated.

26. Page 28. How detailed will the specifications be in the Preliminary Design Report submittal? Typically, the list of specification sections are provided, but the sections haven't yet been developed. Since, Weyerhaeuser intends to submit a Preliminary design report that is greater than 30% complete, greater detail on the contents of the Preliminary Design Report are required here.

*Response:*

Specifications will be developed consistent with the Construction Specifications Institute guidelines. The following list of anticipated specifications has been added to Section 6:

- Flexible Membrane Liner
- Geotextiles
- Clearing and Grubbing
- Trenching, Backfilling, and Compacting
- Fill

- Sediment Control Fence
- Erosion Control and Revegetation Mat
- Wells
- Monitoring Well Abandonment
- High-Density Polyethylene (HDPE) Pipe
- Topsoil
- Seeding
- Fertilizing

27. Page 30, Section 8.2.1. The database maintained by the respondents will be submitted to the Agencies electronically in a mutually agreed to format (MS Access.mdb file preferred) and clearly marked: Initial Deliverable. It will be a comprehensive database submittal ranging from [start date] through [end date]. It will be followed by subsequent deliveries which will be incremental additions to the database. These submittals will range from [start date] through [end date] and will not overlap with previous deliveries.

*Response:*

*(Note that this Subsection is on Pages 31-32 in the April 2008 final document.)* Subsection 8.2.1 of the RDWP has been revised to incorporate submitting the laboratory analytical data to the agency as requested.

28. Page 31, Section 8.3, first paragraph. Instead of monthly reports, EPA requires that the progress reports be submitted bi-weekly during construction activities. In addition to those formal progress reports, informal reports shall be submitted electronically on a weekly basis during construction activities.

*Response:*

*(Note that this paragraph is on Page 32 in the April 2008 final document.)* Paragraph 44 of the Consent Decree specifically requires monthly progress reports during construction and quarterly reports during other activities, unless required on a less frequent basis. During construction, Weyerhaeuser will provide weekly schedule updates, via e-mail or on a read-only Web site, on the activities planned for the upcoming week, in addition to the monthly progress reports.

29. Page 31, Section 8.4. In addition to submitting 2 copies of plans to the State, arrangements should be made for concurrent delivery of an electronic copy via CD, DVD or internet field transfer protocol site.

*Response:*

(Note that this Section is on Page 33 in the April 2008 final document.) The agency's request has been incorporated.

### **Multi-Area QAPP**

1. QAPP Worksheet #16-3. Change "Draft remedial design" to "Preliminary remedial design" for both occurrences in this table.

*Response:*

Consistent with the response to Comment 24, the term Draft remedial design has been changed to preliminary remedial design.

### **Multi-Area FSP**

1. Page 13, Section 2.4.1, third bullet, first sentence. "Prepare a Soil Boring Log (refer to Appendix B for a sample log)..." This is Appendix B—to avoid confusion, change appendices to attachments within individual appendices.

*Response:*

Within the appendices, the documents will contain attachments, not sub-appendices.

2. Page 14, third whole bullet. "Dispose Geoprobe® samples onsite. Containerize the decontamination water in 55-gallon barrels that will be properly labeled and stored on site." Decontamination water should be disposed offsite in an appropriate manner, and that should be stated here as well. The language included on p. 23 (fourth bullet) in the main body of the draft RD Work Plan should be changed to state the same thing.

*Response:*

The text describing the plan for managing decontamination water was inconsistent between Section 5 of the RDWP and the FSP, and has been corrected. Discharging decontamination water to the landfill surface at a rate that allows infiltration into the landfill without creating runoff has been allowed by the U.S. EPA and/or the MDEQ at other landfill sites in Michigan. This practice does not pose an increased risk to human health and the environment because the volumes are small compared to the flow in the groundwater flow system and because the possible concentrations of contaminants in decontamination water would be so low that no significant increased risk to human health or the environment could reasonably be expected to occur as a result. Moreover, because samples are not going to be collected for laboratory analysis, only limited decontamination of equipment is involved in the predesign investigation.

3. Page 14, sentence after 4th bullet. The reference to Appendix A was confusing, but can be corrected by changing appendices to attachments within individual appendices.

*Response:*

*(Note that this sentence is after the sixth whole bullet on Page 14 in the April 2008 final document.)* Within the appendices, the documents will contain attachments, not sub-appendices.

4. Page 16, section 2.4.2. Remove the extra word “based” in the second sentence.

*Response:*

*(Note that this sentence is on Page 17 in the April 2008 final document.)* The agency’s comment has been incorporated.

